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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,128	01/03/2005	Yakayuki Yanagisawa	0054-0291PUS1	9560
2292 7590 02/07/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER ALSOMIRI, ISAM A	
			ART UNIT	PAPER NUMBER
			3662	
SHORTENED STATUTORY PERIOD OF RESPONSE		NOTIFICATION DATE	DELIVERY MODE	
3 MONTHS		02/07/2007	ELECTRONIC	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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mailroom@bskb.com



## **DETAILED ACTION**

### ***Drawings***

Figures 8-9 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 1 is rejected under 35 U.S.C. 103(a) as obvious over applicant's**

**Admitted Prior Art (APA) in view of Endo US 4,552,456 and Beuhler et al**

**US006860350B2.** APA discloses in figure 8, a coherent laser radar device, comprising: a laser source (1) that oscillates a laser beam which is linearly polarized; a first optical coupler (2) that is formed of a polarization maintained type optical element that branches the laser beam from the laser source into two lights, a local light and a

Art Unit: 3662

transmitted light; an optical modulator that is formed of a polarization maintained type optical element that modulates the transmitted light that is branched by the first optical coupler (3); an optical amplifier (4) that amplifies the transmitted light which is outputted from the optical modulator; a transmitting/receiving optical (6) system that applies the transmitted light which is amplified by the optical amplifier toward a target and receives a scattered light from the target; a transmitting/receiving light splitting device (5) that splits the transmitted light that is amplified by the space type optical amplifier and the received light that is scattered by the target; a second optical coupler (7) that is formed of a polarization maintained type optical element that mixes the local light that is branched by the first optical coupler and the received light that is split by the transmitting/receiving light splitting device together; a photodetector (8) that detects heterodyne of a mixed light from the second optical coupler to output a beat signal of the received light; a signal processing device (9) that processes a signal that is amplified by the beat signal amplifier; characterized in that an optical path that extends from the laser source to the space type optical amplifier through the first optical coupler, an optical path that extends from the transmitting/receiving light splitting device to the photodetector through the second optical coupler, and an optical path that extends from the first optical coupler to the second optical coupler are connected by polarization maintained type single mode optical fibers (see specification page 4 lines 3-9).

APA is silent about the optical amplifier (4) being a space type optical amplifier that amplifies the transmitted light which is outputted from the optical modulator over space propagation. However, an amplifier that amplifies light over space propagation is

well known by using different types of gases as an amplifying medium. It would have been very obvious to use optical amplifier using gas amplification medium as an alternative way to achieve the same result.

APA does not teach a beat signal amplifier that amplifies the beat signal which is outputted from the photodetector; However, amplifying the beat signal is very well known. Endo teaches an optical radar system including a beat signal amplifier 23 (see figure 1). It would have been obvious to modify APA to include the beat signal amplifier to obtain a stronger signal for the signal processor.

APA does not teach a display device that displays a result processed by the signal processing device. However having a display device is well known and obvious. Beuhler teaches an optical radar that includes a display (see figure 9). It would have been obvious to include the display to view the result or the detected signals.

### ***Allowable Subject Matter***

Claims 2-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

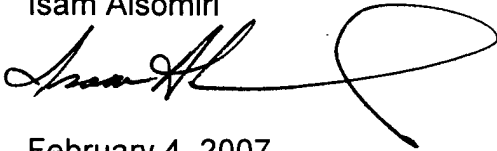
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isam Alsomiri whose telephone number is 571-272-6970. The examiner can normally be reached on Monday-Friday 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Isam Alsomiri

A handwritten signature in black ink, appearing to read 'Isam Alsomiri', with a large, stylized loop at the end.

February 4, 2007